

REMARKS

Reconsideration of the present application is respectfully requested. Claims 1-43, 38 and 51-62 were previously canceled. In this amendment, claims 46-48 have been canceled, claim 44 has been amended, and claim 63 has been added. No new matter has been added.

Interview Summary

A telephone interview was conducted between the Examiner and Applicant's representative (the undersigned) on 10/11/2006. Applicant proposed amendments to the specification, which are reflected in the amendments above and the accompanying Substitute Specification. The Examiner agreed that the amendments to the specification are acceptable and that the amendments to the claims overcome the prior art rejections.

Amendments to Specification

The specification has been amended as shown in the enclosed Substitute Specification (both clean version and marked-up version showing changes are provided). The changes do not constitute the addition of new matter. Note that the present application, as originally filed, included an appendix entitled, "IMAGINE: The Image Engine -- Documentation & User's Manual" (version 2.80). A reference to that appendix is found in the last paragraph of the Detailed Description section of the present application (said paragraph has been renumbered as paragraph [0070] in the accompanying Substitute Specification). The appendix is part of the original disclosure of the present application. Applicant has merely copied and/or adapted description from

that appendix into the main body of the patent application, to better support the above claim amendments.

Support for the material inserted into the main body of the specification can be found at the following locations in the appendix (Imagine specification 2.80):

<u>Paragraph(s) in Specification</u>	<u>Location in Appendix</u>
[0044], [0045]	page 75, left column
[0046]	page 82
[0047] – [0049]	page 22, left column
[0050] – [0058]	page 173
[0059] – [0066]	page 126
[0067] – [0069]	page 133

Discussion of Rejections

Section 112 Rejections

Claims 44-47 and 49-50 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner stated, “The limitation from claim 44 ‘A second assembly code level which includes a plurality of instructions which are accessible to the programmer and which can explicitly reference individual outputs of any of the plurality of functional units’ is not contained within the specification upon a cursory glance.” (Office Action, p. 3).

Applicant has amended the specification to copy material from the appendix into the main body of the specification, to provide more clear support for that limitation. Support for that limitation is now provided in the specification in paragraphs [0044] – [0046] of the accompanying Substitute Specification. Support for that limitation can also be found elsewhere throughout the originally filed appendix. Applicant respectfully submits that the rejection has therefore been overcome.

Prior Art Rejections

Claims 44, 45, 49 and 50 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent no. 4,766,566 of Chuang (“Chuang”) in view of U.S. Patent no. 5,313,331 of Labrousse et al. (“Labrousse”). Claims 44, 46 and 47 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent no. 5,487,022 of Simpson et al. (“Simpson”) in view of Lambrousse.

Claim 44 has been amended essentially to incorporate the limitations of dependent claims 46 and 47 (now canceled) and additional limitations. Claim 44 now is as follows:

44. (Currently amended) A processor comprising:

 a plurality of functional units coupled to each other to execute operations defined from an instruction set of the processor, the plurality of functional units including an arithmetic logic unit (ALU) and a multiplier, the instruction set having a hierarchy of instruction levels, each of which can be used by a programmer to define instructions for the processor, the hierarchy of instruction levels including

 a RISC/CISC assembly code level,

 a second assembly code level which includes a plurality of instructions which are accessible to the programmer and which can explicitly reference individual outputs of any of the plurality of functional units, and

a vector processing assembly code level, using which an individual instruction can be automatically repeated a programmable number of times on different data words; and

 a plurality of control registers, the plurality of hierarchical instruction levels further comprising a fourth level corresponding to the control registers, using which individual instruction words executed by one or more of the functional units can be extended by bits in the control registers on a per-instruction-cycle basis. (Emphasis added.)

To support a rejection for obviousness, the cited combination of references must teach or suggest *all of the claim limitations*. *In re Vaeck*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991); MPEP § 706.02(j) (emphasis added). No combination of the cited art discloses or suggests all of the limitations of claim 44, as amended, or renders the claimed invention obvious as a whole.

In particular, no combination of the cited references is seen to disclose or suggest a processor which has a hierarchy of instruction levels that includes the *four different types of instruction levels* defined in claim 44. Similar limitations are also recited in new claim 63.

Applicants note the rejection of dependent claims 46 and 47 (now canceled) based on Simpson in view of Lambrousse. However, in contrast with the present invention, the processors disclosed by Simpson and Lambrousse are not seen to include a vector processing assembly code level, using which *an individual instruction can be automatically repeated a programmable number of times on different data words*. Support for this claim limitation is located in, for example, paragraphs [0003], [0045] and [0047] – [0058] of the accompanying Substitute Specification. Simpson, for

example, discloses “vector instructions”, but they operate on single data words (col. 13, lines 7-9).

Further, while the processors disclosed by Simpson and/or Lambrousse may include control registers, those processors (as disclosed) are not seen to include an instruction level corresponding to the control registers, *using which individual instruction words executed by one or more of the functional units can be extended by bits in the control registers on a per-instruction-cycle basis*. Support for this claim limitation is located in, for example, paragraphs [0059] – [0069] of the accompanying Substitute Specification.

Thus, no combination of the cited references discloses or suggest all of the limitations of claim 44 or claim 63. Therefore, claims 44 and 63 and any claims which depend on them are patentable over the cited art.

Moreover, it must be kept in mind that to find an invention unpatentable for obviousness, it is not sufficient that all of the individual elements might be found in different prior art references. There must be a *suggestion* or *motivation* in the prior art to combine the teachings of the references, and the invention as a *whole* must be obvious. *In re Rouffet*, 149 F.3d 1350, 1356 (Fed. Cir. 1998); 35 U.S.C. § 103. It is impermissible to pick and choose among isolated disclosures in the prior art, through hindsight reconstruction, to show obviousness of the claimed invention. *In re Fritch*, 972 F.2d 1260, 1266 (1992). Applicant respectfully submits that the present invention, as a *whole*, is not obvious based on any combination of the cited references.

For at least the above reasons, therefore, claims 44 and 63 and any claims which depend on them are patentable over the cited art.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Conclusion

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If any additional fee is required, please charge Deposit Account No. 02-2666.

Respectfully submitted,
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